AT THE CROSSROADS BETWEEN GLOBAL HEALTH AND LOCAL CULTURES: A CRITICAL PERSPECTIVE

Dr. Duncan Pedersen
Douglas Mental Health University Institute
McGill University

Abstract: *Despite important advances made in reducing disease and death and developing cost-effective interventions, many problems remain unsolved in the global health and disease equation at the beginning of the XXI century. As a result of the epidemiological transition, "new" patterns of morbidity and mortality have emerged: the increased importance of mental and behaviour-related conditions (i.e., mental illness and neuro-psychiatric disorders, alcohol and substance abuse, self-inflicted injuries, including suicide and deaths from violence and external causes), the threatening AIDS pandemic, the resurgence of "old time" diseases such as cholera, malaria, dengue and tuberculosis within specific regions and populations, the obesity epidemic and the increasing prevalence of diseases of affluence, coupled with the health sector reform, all represent major new challenges for the global health research agenda. The article further discusses some of the changes occurring in the public health paradigm, which has remained strongly bonded to the biomedical model while disregarding local cultures and the social determinants of health and illness. As we attempt to regain control over a sombre world health scenario, we argue the critical role that global health research can play in reversing some of the current trends in population health, both in Canada and the world. The importance of enlarging the current bio-medical model of health and illness is underlined closely linked to the adoption of a critical epistemology of the medical sciences leading to a reconfiguration of the population health field. Finally, an appeal to critically reexamine the ethical foundations of global health and attain a more balanced level of funding in global health research is put forward.*

> *"Once medicine is established as anthropology, and once the interests of the privileged no longer determine the course of public events, the physiologist and the practitioner will be counted among the elder statesmen who support the social structure. Medicine is a social science in its very bone and marrow."*
>
> *Rudolph Virchow*
> *Die Einheitsbestrebungen, 1849*

1. At the turn of the century, the emergence of the "New World Order" lead to profound changes in the social, economic and political context – in both rich and poor countries alike– creating opportunities and hopeful prospects, but also challenges, risks and constraints for the health of populations' world wide. Today, **globalization** *and* **fragmentation** are world dominant forces at play, simultaneously exerting major influences in the configuration of vast social sectors, realigning political fronts, generating alliances and antagonistic tensions and conflict in various forms with a range of consequences in the quality of life, health status and life expectancy of populations around the globe. Growing interdependence, competition for world markets, the expansion of transnational corporations, and new trade agreements mobilizing financial resources, goods and services along with increased transfer of medical technologies,

drugs and pharmaceuticals have contributed both positively in some instances, but also negatively to global health (Kim et al, 2001). The trans-boundary movement of hazardous products and waste have created new health risks often resulting in global environmental degradation: ozone depletion, climate change and ocean pollution, with obvious deleterious consequences in the living conditions and global health outcomes (Pedersen, 1996).

The realignment of political and economic forces have increased social inequalities and debilitated the safety net, while ethnic and religious conflicts and wars have become major causes of suffering, general ill-health, and increased mortality rates. In recent decades, the number of forcibly displaced and refugee populations have significantly raised to over 30 million, as war, armed conflict, and political upheaval engulfs civilian populations worldwide, contributing to a lingering additional burden of disease, death and disability (Pedersen, 2002; 2003; 2008). Violence has become endemic in many parts of the world. According to a WHO report, in 2000 an estimated total of 1.6 million deaths were attributed to global violence in various forms: about half were due to suicide (self-directed violence), almost one third to homicide (interpersonal violence and crime), and one fifth were war-related casualties. The vast majority of these deaths occurred in low and middle income countries and less than 10% in rich, high income countries (WHO, 2002).

However sombre this world scenario may be, as we complete the first decade of the XXI century, there also seems to be consensus that the overall world health status is now significantly better than it was five or six decades ago. Since the end of the Second World War, most countries have shown a steady decline in infant mortality rates and corresponding increases in life expectancy, accompanied by a changing, "transitional" pattern of the main causes of morbidity and mortality. While communicable diseases, such as smallpox, have been eradicated and many others have experienced a considerable reduction in frequency and/or lethality, re-emerging diseases, "new" epidemics (i.e., obesity and HIV/AIDS) and chronic disorders are affecting increasing numbers of people, clearly illustrating that the fundamental nature of the health and disease process is a socially-determined multi-dimensional phenomena in continuous transformation and dynamic change.

2. Beyond biology and population genetics, it is generally accepted that there are other factors in the environmental, social, economic and political dimensions which are involved at various levels determining the magnitude and influencing the direction and velocity of these changes. Urbanization, economic growth, improved access to basic education, and a whole range of societal changes affecting the family reproductive patterns and women's status and role are most often recognized as playing an important part in the overall health improvement experienced in low and middle-income countries. Although there seems to be no simple linear relationship between economic growth and health outcomes, there is a consistent association between **social inequalities, poverty and cumulative adversity** with disease and all forms of suffering[1] and distress, including mental and behaviour-related disorders.

The main pathways linking social inequalities with health status and longevity remain to a large extent unknown. Nevertheless, we argue that poverty, racism and social exclusion, can

[1] Social suffering results from what political, economic, and institutional power, does to people and reciprocally, from how these forms of power themselves influence responses to social problems (Kleinman et al., 1997).

have powerful influences in mental and physical health, both in terms of morbidity and mortality (Bibeau & Pedersen, 2002). Material insecurity which comes with poverty is itself a source of stress, worry and a constant threat which should not be underestimated. People exposed to stressful life events (i.e., marriage dissolution, job insecurity, death of family member, legal prosecution, eviction, serious financial trouble, etc.) have higher mortality rates. There are several possible psychosocial pathways linking stressful life events with higher morbidity and mortality, some involve biological factors such as immune and neuroendocrine systems, while others are related to the psychosocial and cultural dimensions (Wilkinson, 1996).

A research domain based on inequality, disease and poor health outcomes offers an opportunity to explore pressing health and social issues while forging links among different disciplines and research topics. Societies where social inequality tend to increase, experience higher death rates from most causes and higher rates of alcohol-related deaths, drug abuse, self-inflicted injuries and suicide, crime, homicide and violence (interpersonal, collective, and organised). Violent death in urban settings in both industrial and less developed nations has become one of the main causes of mortality among men in low-income sectors of cities such as Cape Town, Rio de Janeiro or Detroit.[2]

3. Basic and applied health and social scientists are engaged in the formidable task of developing theories, concepts, methods and techniques to reshape and enrich our understanding of the social and biological determinants of health and redesign interventions and responses aimed at increasing our life expectancy and improving the overall quality of life. Today, there is little doubt that health status and life expectancy improves where income differentials are smaller and societies become more egalitarian and socially cohesive. Moreover, the finding that old and new diseases selectively attack certain individuals while others similarly situated and exposed remain healthy imposes great challenges to our conventional knowledge of causality as we look beyond inequalities as an inescapable fact that shapes social life everywhere.

In human societies, health and disease are unequally distributed with some segments or groups coming out consistently better than others, whatever techniques or measuring tools are used. From the social sciences' perspective health is seen as a product or a commodity and illness is seen largely as the result of unequal distribution of resources or unequal access to wealth and power. Power in society relies not only on domination, control, repression and submission of others, but also expresses itself in its ability to define what is acceptable, appropriate and should be considered normal (Lock & Lindenbaum, 1993). The **critical public health approach** borrows from these assertions claiming that distress, mental illness, and human suffering, are social productions modelled by the structural power relations at work in the larger society.

[2] The homicide rates in Rio de Janeiro have surpassed 45 per 100,000; yet there are many cities in Latin America experiencing similar, if not higher rates, like Medellin, in Colombia, where as many as 318 homicides per 100,000 were recorded at the peak of violence in the early 1990s, mostly related to the power struggle between competing drug cartels. In El Salvador, the estimated percentage of life-years lost to suicide and homicide among men, including war and summary executions, is 26.3 percent of the total death toll, which is many times higher than the percentage lost to cancer (1.8 percent) and four times higher than the proportional loss attributed to diarrhoea (6.4 percent).

In sum, there is a **continuous loop from the behaviour of cells and molecules to the health of populations**, and back again, a continuum in which the past and present social environment of individuals (and their perceptions of those environments) constitutes a key set of links and pathways (Evans et al, 1994). In the next decades, one of the main challenges remains to evolve a global health research agenda aimed at elucidating this set of linkages and pathways.

4. An important cross-cutting area of global health research would be to systematically explore the ways in which health inequalities are historically and socially produced. This should not be limited to the analysis of how illness, including mental illness, is socially distributed, but must examine how political and economic structures are embodied in the illness experience "every bit as much as early family experience and biology are." (Good, 1994). While most social scientists recognize the interplay of historical, social and economic contexts in the production of health and illness, this recognition is at best seen as marginal among many biomedical researchers and health practitioners. Moreover, the significance of the social determinants is often underestimated, and generally there has been an inadequate articulation of the macro-social dimensions with the micro-social -- the community, family and individual experiences-- and the biological, in attempting to explain the construction of illness and its opposite, the production of health.

According to data presented in the World Development Report (World Bank, 1993), two sets of causes relevant to our discussion, namely neuro-psychiatric disease and intentional injuries, together represent 10.5 percent of the total number of DALYs (Disability-Adjusted Life Years) lost worldwide, making it the **single most important cause of disease and disability**, when compared with other worldwide prevalent causes, such as diarrhoea (7.3 percent); cancer (5.8 percent); or malaria (2.6 percent). The figures for neuro-psychiatric conditions may even under-represent the magnitude of the problem, since many of the "newly" emerged patterns of social and behaviour-related problems, such as street violence, women battering, child sexual abuse, substance abuse and smoking, among others, are somewhat "hidden" under the conventional classification of disease categories and causes of death. Mental health problems such as major depression, has also been underestimated by traditional approaches that take into account mortality and morbidity rates and not disability. Major depression is the leading cause of disability in Canada and elsewhere, where it accounts for more than one in every ten years of life lived with disability worldwide. The predominance of these conditions is by no means restricted to established market economies, although their burden is higher in these countries and affects disproportionately more women than men (Desjarlais et al., 1995; WHO, 1995).

5. There is no single paradigm to explain the role of psychosocial, environmental and biological factors in mental illness. However, current research provides strong evidence that most if not all mental disorders are bio-psychosocial and − regardless of the psychological and/or physiological processes involved − the quality of the person's social environment influences the onset, course and outcome of mental illness (Desjarlais et al., 1995). Although the links between social and biological determinants and ill-health are still poorly understood, there is increasing recognition that mental health and well-being are largely -- but not exclusively -- related to the

broader context of the political economy, the social *milieu* and the local resources available for managing and coping with illness and disability.

Recent epidemiological evidence has shown that the oversimplified theory of adverse psychosocial conditions as the primary cause of poor health is no longer sustainable. Today, the emergence of the **"new cultural psychiatry"** (Kleinman, 1988; Kirmayer, 1989; Bibeau, 1997) has transformed our understanding of the role psychological, social and cultural forces play in shaping mental disorders. A better understanding of these issues on a global scale will contribute to the formulation of sound mental health policies both domestically and abroad, and generate new hypotheses for the organization of services, health care provision and alternative models of clinical practice.

Given the great diversity of the illness experience across countries it seems essential to continue exploring the boundaries of what is considered abnormal or deviant behaviour and the experience of mental illness in different social and cultural settings. A second issue relevant to our global research agenda is to elucidate the influence of society and culture in the onset, course, management and prognosis of mental illness. Likewise, it is also important to document what the psychosocial responses toward certain disease conditions such as AIDS are in the general population (i.e., stigma) and how the help-seeking process is constructed in different social, cultural and ethnic groups. Although as pointed above, individual characteristics such as genetic endowment, early life experiences and lifestyle influence relative risk and resilience, the social system of age-cohort and gender, class, ethnicity and social cohesion is particularly powerful in diminishing or intensifying the consequences of broader social forces at play.

While diseases resulting from poverty and poor environmental conditions, such as diarrhoea or tuberculosis, have often been "medicalised" (transforming largely social and political problems into narrow biomedical concerns) and subject to massive technological interventions, **mental disorders and the newly-emerging behaviour-related problems** challenge conventional biomedical solutions and demand a different approach.

As shown in carefully conducted studies, the course and outcome of severe mental disorders depend not solely on access to services, medication, skills and the availability of professional care, but also on the reactions, care and support provided by family members and the immediate social network of community resources. Likewise, many behaviour-related disorders have no simple, effective and readily available bio-technological solution, but will require changes in individual *and* collective behaviours as well as interventions directed to both "microsocial processes" and the broader social context.

6. Let us turn now our attention to some behavioural interventions aimed at changing health outcomes led by public health programs. Three large-scale intervention trials reviewed by Glass (2000): the Multiple Risk Factor Intervention Trial (MRFIT); the Community Intervention Trial for Smoking Cessation (COMMIT); and the Enhancing Recovery in Coronary Heart Disease trial (ENRICHD), have been proven of limited efficacy in modifying health behaviour and health outcomes. Modest changes in individual health behaviour can be achieved, such as smoking cessation or dieting and exercise, but these changes are for the most part of short duration and their contribution to improved health outcomes is questionable (Glass & McAtee, 2006). The large-scale interventions focused primarily on changing individual health behaviours

largely ignore the social and cultural context shaping these behaviours. Likewise, most public health and health education programs depart from the unproven assumption that health behaviours such as dieting, smoking, substance abuse, condom use and sex work are voluntary decisions, with little consideration of existing social pressures and local cultural values and norms. Changing life styles or individual behaviours aiming at lasting improvements in the health status of populations has proven to be a complex and difficult task and there is growing consensus for the need to enlarge the current biomedical model of disease to include the psychosocial and cultural dimensions of health behaviour. Understanding the critical role of local cultures in shaping health behaviours is a fundamental task which remains to be acknowledged by health and social scientists.

7. In recent years, there seems to be growing consensus that ***public health*** as a profession, as a governmental activity, and as a global commitment for the improvement of collective health, is neither clearly defined nor fully understood. Following the recent turn toward adopting the biomedical paradigm in public health, most international health agencies and private foundations have followed the strategy of applying massive biomedical interventions (i.e., vaccines, oral re-hydration salts, contraceptives, condoms, vitamin A, etc.), targeting specific diseases categories and behaviours. The implementation of these interventions, often requiring a central locus of control, were largely based on the risk approach focussing on "diseases of poverty," and received ear-marked funding from multi-lateral agencies, government sources and private donors.

Almost 30 years ago, under the auspices of WHO, the *Alma-Ata Declaration* (WHO & UNICEF, 1978) launched primary health care as an overall strategy to improve health across the globe. This was followed by the WHO initiative of *Health for All in the Year 2000* (WHO, 1998) and years later by other internationally-driven global initiatives such as *Child Survival and Safe Motherhood*, where medical technologies were widely promoted, targeting specific disease categories prevalent in the developing world. From then on, successive WHO global health initiatives targeting specific disease conditions were launched: to reduce tobacco use, to control malaria (*Roll Back Malaria*), and tuberculosis (*Stop TB*), to eradicate polio and expand vaccination campaigns against preventable diseases, such as the global Alliance for Vaccines and Immunization (GAVI). In 2003, under the banner of social justice and security, WHO launched the 3 by 5 initiative aimed at increasing access to antiretroviral drugs to 3 million HIV positive cases by 2005 (Lee, 2003).

Although there is neither consensus nor sufficient data yet available, there is little doubt that these initiatives have contributed to widespread improvement of health conditions, considerably improving the chances for survival in various population groups who had been previously plagued by disease, famine and early death. However, it is also true that for many, health progress has stagnated or even reversed, once enthusiasm and funding from donors have waned. For instance, after the 80 percent population target for vaccination against measles has been reached, large numbers of the cohort of newly born children remain unprotected, so that measles remains highly prevalent in certain regions and the global death toll for this preventable condition is still around 900,000 children annually (see "Immunizations", 2002).

Many of these internationally-driven health interventions are based on a **conventional public health paradigm** − focusing on changing individual behaviours − departing from the

flawed assumption individual actions are the single most important factor explaining the occurrence of disease. Public health specialists operating within the conventional paradigm tend to ignore or marginalise the contextual forces at play, often end up making false attributions of causality leading in turn into inadequate or ineffective interventions.

Over a decade ago, international health experts agreed that the conventional public health paradigm is entering a new (or different) developmental phase, where is no longer subordinated to medicine either conceptually or operationally (Guerra de Macedo, 1992). Critical social scientists have made an even more drastic proposition demanding the detachment of public health from the biomedical model and its rational, positivistic philosophy resting on a functionalist interpretation of society (Lupton, 1998). In this paper we endorse a more balanced view advocating for a **stronger articulation of public health and epidemiology with the social sciences**, which ultimately would lead to a complete reconfiguration of the field of population health.

8. What are the ethical foundations of these internationally-driven global health initiatives? To begin answering this question we should critically look into the underlying assumptions of health systems and public health programs as well as the value system underpinning those foundations (Horton, 2004), including **ethical and moral values**. The notion that global health must be guided by an ethical vision is not new. A few years ago, a former Director General of WHO stated that "… technical excellence and political commitment have no value, however, unless they have an ethically sound purpose." (Lee, 2003). The issue of ethics and moral values are of critical importance in global health for explaining *why* and *how* global health initiatives and interventions should be undertaken. In recognizing health as a basic right and an absolute human need, it's obvious we have the absolute obligation to provide health for all as best as we can, this being one reason for putting the poor and most disadvantaged first. Others may invoke altruism as the foundational value underscoring internationally-driven global health initiatives as part of the efforts to maximize freedom for all to develop their own capacities and lead a healthy and valuable life. Finally, there are those endorsing more utilitarian approaches which may emphasize the principle of investing in health of the poor to strengthening the global economy and ultimately bring greater prosperity and safety to all (Lee, 2003).

9. In the **social sciences**' arena, the success of structuralism followed by the so-called "interpretive turn" has lead to increased skepticism about the use of positivistic methods in the study of human societies. Within this frame, Charles Taylor − a philosopher based at McGill− launched the notion that "human beings are self-interpreting animals" (Taylor, 1998), meaning that humans are ontologically beings who cannot avoid interpreting themselves, others and the world around them. Two other important dimensions, namely narrativity and experience, are attached to the perspective opened by the interpretive turn of the social sciences. It is not enough to say that people act towards things in at least partial congruence with the meanings these things hold for them. People also produce discourses and narratives in which they explain, via complex rhetorical strategies, the **meanings associated with their behaviours**. To be properly understood these discourses have to be ultimately inserted within the whole culture which supports these texts (the emphasis placed on narrativity is so strong in contemporary social

sciences that some scholars have come to see culture as nothing else than a mega-text). **(**Bibeau, 1999). In short, in order to understand the meanings attached to certain individual and collective behaviours, we should analyze not only the professional explanatory models (i.e., biomedical) but also the popular discourses of health and illness in the context of local cultures. The use of qualitative tools, such as the collection of illness narratives -- particularly from the patients' perspective-- should be seen therefore as important as the quantitative methods and tools we utilize in epidemiology, public health and both set of methods should become standard practice in health assessment as well as in the design of health interventions.

10. In order to contribute to the adoption of a more **critical epistemology of medical science**, we should begin to examine much more closely the conventional epidemiological model of disease causation. The "holy epidemiological trinity" — agent, host and environment — which has been extensively applied to infectious diseases, as well as a wide range of other conditions (from coronary artery disease to suicide to traffic accidents), tend to ignore or marginalize the social system's influences on the disease distribution in the population (McKinlay & Marceau, 1995). Among others, we have argued elsewhere, that it is imperative to enlarge the conventional epidemiological model of disease causation and incorporate the social system in the analysis and better understanding of disease occurrence and its distribution (Bibeau, 1999; Pedersen, 1996).

There is enough data being reported in the epidemiological literature referred above to suggest that there must be other factors beyond the introduction of biomedical technologies (i.e. vaccines or new drugs) to explain why certain diseases have experienced a substantive decline. A classical example is the historical decline of death rates for tuberculosis in England and Wales, which has been attributed more to changes in industrialization and working conditions, housing and nutritional status, rather than to the introduction of the BCG vaccine and streptomycin or a better understanding about the disease causation (McKeown, 1976). Fifty years after the introduction of a highly effective combination therapy, tuberculosis still remains the world's leading infectious cause of preventable deaths. Nevertheless, there still is persistence in national programs to rely mainly in vaccines and medication for the control of tuberculosis.

Another prime example is malaria. In the last 50 years, malaria rates in the US have been steadily declining largely because ecological changes, agricultural development and a range of other poorly understood factors (Levine, 1999). In Southern US, the use of antimalarial drugs and DDT have been rather limited in the last few decades, which means that there are other factors at play in the reduction and maintenance of low attack rates for malaria beyond the introduction of antimalarials and vector control measures.

HIV infection and the AIDS epidemic seem to be following a similar pattern, when trying to explain the rise and/or decline in the number of cases among certain risk segments of the population. For instance, a wave of optimism recently displayed with regards to the AIDS epidemic have been created by the illusion of having "conquered" the disease and raised life expectancy with a new generation of antiretroviral drugs. However, differentials in access to these new drugs and ability to pay are still determining the outcome of AIDS among the peoples from rich countries such as the US and Canada. Even though antiretroviral agents are showing a clear advantage over other therapies, the overall impact of treatment in mortality due to AIDS

may show a limited effect since the population under treatment represents only a fraction of the total population already infected with the disease. In spite of worldwide advances being made the balance shows new infections continue to dwarf the numbers who start retroviral therapy in low and middle income countries (WHO; UNAIDS & UNICEF, 2007). Substantial resources are allocated to vaccines, microbicides, and prophylactic antiretrovirals. Yet such innovations might be mainly targeted only at very high-risk populations, rely on behavioural compliance, and engender disinhibition (Imrie et al, 2007). Similarly, treatment of sexually transmitted infections to prevent HIV has been disappointing (Gray & Wawer, 2007). Even male circumcision, an already available and proven effective procedure used in AIDS prevention will take many years to become culturally acceptable and have a significant effect in controlling the epidemic.

HIV transmission is another example of how medical and social scientists can be caught barking up the wrong tree. But after almost two decades of such studies on HIV transmission, few have explored the "… precise mechanisms by which such forces as racism, gender inequality, poverty, war, migration, colonial heritage, coups d'état, and even structural adjustment programs become embodied as increased risk." (Farmer, 1999). On the other hand, the development of effective interventions are also dependent on the social, cultural and political context within which policy makers, bankers, investors and scientists reach their decisions.

But to advocate for a **critical epistemology** and interrogate science and the medicalisation of psychosocial problems does not mean we should neglect medicine as a science and biotechnologies as relevant and often potentially significant interventions. By questioning the impact of medical technologies or the quest of "magic bullets" as a failed strategy, we want to point at the complexities of solving health-related problems and ill-health engendered by social inequalities. While we censure the abuses of medicalisation, we acknowledge that there is nothing wrong with using effective therapies, biotechnologies and appropriate interventions. As has been pointed out more that two decades ago by Eisenberg and Kleinman (1981): "The key task for medicine is not to diminish the role of biomedical sciences in the theory and practice of medicine but to supplement them with an equal application of the social sciences in order to provide both a more comprehensive understanding of disease and better care of the patient. The problem is not 'too much science', but to narrow a view of the sciences relevant to medicine."

11. In outlining a **new global health research agenda**, our first goal should aim to study the scientific process through which major psychosocial problems come to be defined either as psycho-pathology or socio-pathology by biomedical experts and health professionals. Our second goal should be to examine and better understand the systems of knowledge and practices developed by medical scientists and lay persons in order to manage, cope with, assign meaning to, and interpret health problems and illness conditions (Corin et al, 1990).

To accomplish these goals it is mandatory to continue building an interdisciplinary framework — between medicine and psychiatry, anthropology, history of medicine and sociology of science — in order to investigate how prevalent scientific categories used by biomedical and health social scientists are constructed (Heggenhougen & Pedersen, 1997). Concurrently, it is essential to assess local cultures and local systems of knowledge in managing health and illness that have been developed by communities, organizations and groups. The time has come for building bridges between the biological and the social sciences as well as for

merging both "expert" *and* "lay" knowledge, articulating professional knowledge, ideas and practices with popular knowledge which is immersed in local cultures.

12. At the crossroads of global health and local cultures we propose to build a new global health research agenda based on a three-sided analytical model consisting of: (1) an ethnographic approach to study diagnostic categories, as well as theories and ways of thinking which prevail in contemporary medicine and health social sciences; (2) a culturally-grounded study of the local ways (local idioms of distress, explanatory models, systems of meaning) through which suffering, pain and illness are expressed, interpreted, reacted to, and managed on a daily basis by individuals, families and communities; and (3) a perspective inspired by the social determinants' approach to improve our understanding of the relationships between modern conditions of life, contemporary family patterns and social organization, including the emergence of *new* cultural values and prevalent disease categories.

This triangular analytical model should permit to produce research results which will help to lay out a new interpretative frame for addressing health policy issues and designing innovative models of medical practice at local, regional and national levels, leading to the reconfiguration of the population health field. It will further facilitate the development of socially relevant and culturally sensitive health services by building on both professional *and* lay knowledge and practices; and it will generate guidelines for reorienting the training of health professionals and health care workers within the framework of a genuine "bio-psycho-socio-cultural" model.

We must periodically remind health scientists and medical colleagues that the problem of signification (meaning) is tied to being human and that the practice of human sciences thus necessitates the inclusion of both semiology and hermeneutics. The benefits of transdisciplinary cooperation appear convincing within areas such as contemporary genetics, evolutionary biology and neurology of regulatory processes, and contribute both to consolidate the biological pole of contemporary social sciences and to open biology to the impact of the social and historical context. We have entered a new era dominated by biology that *link*s the brain-mind complex with environment and history, both at collective and individual levels. From this new perspective, **biology is thus seen as dynamic, interpersonal, historical and evolutionary** (IOM, 2000).

13. As part of the **globalization of scientific knowledge**, an array of biotechnologies has emerged: from molecular diagnostics to recombinant vaccines and therapeutic proteins, from bioremediation to genetically modified crops, most of which have great potential of being used in the prevention and control of specific disease conditions. However, as discussed above in the case of HIV/AIDS, tuberculosis and malaria, the availability of vaccines, drugs and different biotechnologies in themselves do not necessarily represent the ultimate solution. It is the transformation of this new knowledge into effective services and interventions in resource-poor environments and its adaptation to local cultures what remains most critical to collective health. On the other hand, current trends in global economic policy, emphasizing a smaller role for governments and a larger role for market forces, aiming toward curative profit-making services, are in potential conflict with some central concerns of public health. The health status of marginalized populations has been shown to be jeopardized when privatization in health

financing and access to health care technologies are inadequately regulated (Kim et al, 2001).

A few years ago, funding for global health was dwindling down and available resources were clearly insufficient to effectively tackle the diseases of the poor. In the last decade however, the situation has changed dramatically and significant financial resources from public and private sources have been allocated to fighting disease in the developing world. New fund-dispersal mechanisms have been created, such as the Global Fund to Fight AIDS, Tuberculosis, and Malaria, which receives donations from governments, philanthropies and corporations, as well as the explosion of humanitarian agencies and thousands of NGOs operating at international, national and local levels are all engaged in a myriad of global and local health initiatives.[3] The World Bank has increased its health spending on HIV/AIDS, tuberculosis, malaria, and maternal and child health; as well as the IMF, the OECD and the G-8 nations have made additional funding available to fight diseases in the poor countries. In the U.S, billions of dollars donated by individuals, corporations and private foundations are readily available for conducting global health interventions mostly aimed at the delivery of specific biotechnologies (i.e., vaccines) or drugs and pharmaceuticals for treatment of specific disease conditions. U.S-based charitable organizations, churches, foundations, such as the Bill and Melinda Gates Foundation, and individuals, have made available billions of dollars to domestic and foreign health programs, disaster relief operations and global, massive immunization campaigns (Garrett, 2007).

However, well intended funding is not necessarily well spent. Funds are often trapped in bureaucratic bottlenecks or diverted from their intended goals and health programs are inefficiently run, make little improvement if any to local health services infrastructure and have poor sustainability. The increased availability of funds for global health initiatives largely driven by the donors and implemented by the private sector raises critical issues with regards to the ability of poor nations to define their own health policies and priorities and exert some degree of control over where the funding should be best applied. According to Garrett (2007), funds are "stovepiped" targeting a specific disease category which often reflects the interests and concerns of donors, not the recipients, thus creating a vertical and unbalanced intervention. Much of the funding and efforts are thus concentrated in solving a specific problem in detriment of broader public health needs often derived from persistent social inequalities --such as poverty or social exclusion-- which remain largely unattended for.

It is now more than ever important to strive not only for a more effective and less pernicious use of available resources but also for a better balance in the funding of health research priorities which remain around the so-called 10/90 gap: **only 10% of global spending on health research is devoted to diseases or conditions accounting for 90% of the global disease burden** (GFHR, 2002). In other words, we are investing far too little in research on diseases which are most prevalent in the world and vice-versa, we apply 90% of our resources to research on diseases that represent only a fraction of the global disease burden. We should strive for reversing current trends in funding of global health research and begin investing resources proportionally to the global disease burden.

Although there is considerably more money spent on health research than was the case 18

3 For example, it has been estimated in more than 60,000 the number of NGOs active in AIDS-related programs (Garrett, 2007).

years ago when the 10/90 gap figures were estimated, it is important to recognize there is still "a massive underinvestment" in global health research relevant to the needs of low- and middle-income countries (Davey, 2004). "Relevant research" is a notion with variable and often ambiguous meanings, which raises ethical concerns and creates dilemmas around the moral values invoked to mobilize support for these global initiatives (Alkire & Chen, 2004).

In examining the relevance of conducting research on cervical cancer in a resource-poor community in South Africa (Simon et al, 2007), it was made evident that in certain cases, health research has the potential to significantly lessen both the local and global burden of a health problem over the long term, but lacks immediate relevance for the people, communities, or nations already impacted by the problem at hand. In some other cases, a health research initiative may be viewed as instantly relevant on the basis that it offers local participants access to a new treatment, procedure or other scarce health care resource.

14. As part of that vision of equity, solidarity and social justice, a more balanced and critical perspective in global health at the crossroads with society and local cultures is beginning to emerge. This perspective encompasses the following four convergent endeavours:

i) The need for **enlarging the bio-psycho-social-cultural model** of health and illness, based on the recognition of the growing importance of the political, economic and social determinants of health and the interplay between the social and the cultural with the biological dimensions of health and disease (Evans et al, 1994).

ii) The **reconfiguration of the population health field** and the adoption of **a critical epistemology of medical science.** As described above, it is essential to acknowledge the paradigmatic changes occurring in the population health field, and the need to reconfigure its boundaries, striving for a better articulation of the social sciences with public health which should lead in turn to the adoption of a critical epistemology of medical science (Bibeau, 1999; McKinlay & Marceau, 2000).

iii) We should intensify our efforts in developing a critical understanding of the underlying assumptions in global health and examine the *why* and *how* global health interventions should be undertaken. There is growing recognition we need **to critically reexamine the foundations of global health and build an ethical frame**, making explicit the values and moral principles underpinning the foundations.

iv) Finally, we should attain **a more balanced funding for global health research**: Canada, as a society committed to the principles of equity, social justice and international solidarity, is striving to reallocate public and private funding for global health research. The recently created Global Health Research Initiative and the Teasdale-Corti Grant Program, funded by ACDI/CIDA; CRDI/IDRC; the

> Canadian Institutes of Health Research; and Health Canada, among others, are best positioned to contribute significantly to increase the proportion of their current level of funding to research on the social determinants of health relative to clinical and biological research.

We have argued in this paper that it is through the evaluation of frames, models and practices commonly used in medicine, anthropology, psychology and health social sciences that we will eventually better understand how distress and suffering are transformed into nosographic categories and eventually absorbed in the realm of the medical domain. We have also acknowledged how the medical science and biotechnologies are used both in the medicalization of the "problem" and as a form of social control in detriment of local, endogenous resources. One may easily find multiple examples in industrial nations as well as in the developing world of medical technologies aimed at controlling deviant behaviours (i.e. hyperactive children, substance abuse and addictions, etc.), as well as plagues, diseases and even natural lifecycle events (childbirth, menopause, etc.).

We posit as a unique challenge in the years to come the building of a clearer understanding of not only *which* political, social and cultural, biological and environmental factors are deleterious and of relevance to different health outcomes, but also *how* they interact and *what* links, paths or mechanisms might explain the interrelationship of these factors and their short, medium and long-term impact or influence (noxious, protective or beneficial) on the health and disease of populations around the globe.

References

Alkire, S. & Chen, L. (2004). Global health and moral values. *Lancet*, **364**: 1069-1074.

Bibeau, G. (1997). Cultural psychiatry in a creolizing world: questions for a new research agenda. *Transcultural Psychiatry*, 33, 4: 322-345.

Bibeau, G. (1999). Une troisième voie en santé publique. *Ruptures (Revue transdisciplinaire en santé)*, 6 (2): 209-236.

Bibeau G. & Pedersen, D. (2002). "A return to scientific racism in medical social sciences: a case study of sexuality and the AIDS epidemic in Africa." *In*: Mark Nichter and Margaret Lock (Eds.) *New Horizons in Medical Anthropology: Essays in honour of Charles Leslie.* London: Routledge, pp-141-171.

Corin, E.E., Bibeau, G., Martin, J-C and Laplante, R. (1990). *Comprendre pour soigner autrement: repères pour régionaliser les services de santé mentale*. Montréal: Les Presses de l'Université de Montréal.

Davey, S. (2004). *The 10/90 report on health research 2003–2004*. Geneva, Switzerland: Global Health Forum for Health Research.

Desjarlais, R.; Eisenberg, L.; Good, B.; Kleinman, A. (1995). *World Mental Health: Problems and priorities in low-income countries.* New York: Oxford University Press.

Eisenberg, L. and Kleinman, A. (1981). *The relevance of social science for medicine.* Dordrecht, Holland: Reidel.

Evans, R.G., Barer, M.L. and Marmot, T.R. (Editors). (1994). *Why are some people healthy and others not? The determinants of health of populations*, New York: Aldine de Gruyter.

Farmer, P. (1999). *Infections and Inequalities: The modern plagues*. Berkeley: University of California Press.

Garrett, L. (2007). The Challenge of Global Health. *Foreign Affairs*, 86, 1: 14-38.

Glass, T.A. (2000). Psychosocial interventions. In L.F.Berkman & I. Kawachi (Eds.), *Social Epidemiology* (pp. 267-305). New York: Oxford University Press.

Glass, T.A. & McAtee, M.J. (2006). Behavioral science at the crossroads in public health: Extending horizons, envisioning the future. *Social Science & Medicine*, 62: 1650-1671.

GFHR (Global Forum for Health Research). (2002). *The 10/90 Report on Health Research.* Geneva: GFHR.

Good, B. (1994). *Medicine, rationality and experience: an anthropological perspective*. New York: Cambridge University Press.

Gray RH & Wawer MJ. (2007). Randomized trials of HIV prevention. *Lancet,* **370:** 200–201.

Guerra de Macedo, C (1992). The Context *In*: *The Crisis of Public Health: reflections for the debate.* PAHO Scientific Publication No. 540. Washington, D.C., p. 218.

Heggenhougen, H.K. and Pedersen, D. (1997). Beyond Quantitative Measures: The Relevance of Anthropology for Public Health." *In*: R. Detels, W.W. Holland, J. McEwen, and G.S. Omenn (Editors), *Oxford Textbook of Public Health* (Third Edition). New York: Oxford Univ. Press.

Horton, R. (2004). The Trinity papers. *Lancet*, **364**: 1069.

"Immunizations." *Encyclopedia of Public Health.* Ed. Lester Breslow. Gale Group, Inc., 2002. eNotes.com. 2006. 9 Dec, 2007 <http://www.enotes.com/public-health-encyclopedia/immunizations>

Imrie J, Elford J, Kippax S, Hart G. (2007). Biomedical HIV prevention—and social science. *Lancet,* **370:** 10–11.

Institute of Medicine (U.S), L. Eisenberg and T. C. Pellmar (2000). *Bridging disciplines in the brain, behavioral, and clinical Sciences*. Washington, D.C.: National Academies Press.

Kim, J.Y., Millen, J.V., Irwin, A., & Gershman, J. (Eds.) (2001). *Dying for growth: global inequality and the health of the poor.* Monroe, Maine: Common Courage Press.

Kirmayer, L. J. (1989). Cultural variations in the response to psychiatric disorders and emotional distress. *Social Science & Medicine*, 29(3): 327-339.

Kleinman, A. (1988) *Rethinking Psychiatry: from cultural category to personal experience*. New York: The Free Press.

Kleinman, A., Das, V. and Lock, M. (Eds.) (1997). *Social Suffering*. Berkeley: University of California Press.

Lee, J-W. (2003). Science and the health of the poor. *WHO Bulletin*, **81**:473.

Levine, R.A. (1999). *Improving world health and alleviating human suffering* (invited lecture). MIT Media Laboratory.

Lock, M. and Lindenbaum, S. (Editors) (1993). *Knowledge, Power and Practice: The anthropology of medicine and everyday life*, Berkeley: University of California Press.

Lupton, D. (1998). A postmodern public health. *Australian and New Zealand Journal of Public Health,* 22 (1): 3-5.

McKeown, T. (1976). *The Modern Rise of Population*. New York: Academic Press.

McKinlay, J.B. & Marceau, L.D. (2000). "To Boldly Go…" *American Journal of Public Health*, 90: 25-33.

Pedersen, D., Tremblay, J., Errazuriz, C. & Gamarra, J. (2008) "The sequelae of political violence: assessing trauma, suffering and dislocation in the Peruvian highlands." *Social Science & Medicine,* (in print).

Pedersen, D., Gamarra J., Planas M.E. & Errazuriz, C. (2003) "Violencia Política y Salud Mental en las Comunidades Altoandinas de Ayacucho, Perú." *In*: C. Cáceres, M. Cueto, M. Ramos y S. Vallenas (Eds.), *La salud como derecho ciudadano. Perspectivas y propuestas desde América Latina,* Lima: Universidad Peruana Cayetano Heredia, pp.289-307.

Pedersen, D. (2002). "Political violence, ethnic conflict and contemporary wars: broad

implications for health and social well-being." *Social Science & Medicine*, 55:175-190.

Pedersen, D. (1996). "Disease ecology at a crossroads: man-made environments, human rights and perpetual development utopias." *Social Science & Medicine*, 43 (5): 745-758.

Simon, C., Mosavelb, M. & van Stadec, D. (2007). Ethical challenges in the design and conduct of locally relevant international health research. *Social Science & Medicine*, 64: 1960-1969.

Taylor, C.C. (Ed.) (1998). *From the beginning to Plato*. New York: Routledge.

UN (1999). Office for Drug Control and Crime Prevention, Centre for International Crime Prevention. *Global Report on Crime and Justice*. New York: Oxford University Press

Wilkinson, R.G. (1996). *Unhealthy societies: The afflictions of inequality.* London: Routledge.

World Bank (1993). *World Development Report: Investing in Health*. New York: Oxford University Press.

World Health Organization, UNAIDS, and UNICEF (2007). *Towards universal access: scaling up priority HIV/AIDS interventions in the health sector*. Progress report, April 17, 2007. http://www.who.int/hiv/mediacentre/universal_access_progress_report_en.pdf (accessed Nov 21, 2007).

WHO (2002). *World Report on Violence and Health.* Geneva: World Health Organization.

WHO (1998). *Health 21: The Health for All Policy Framework for the WHO European Region (1998).* Copenhagen: WHO Regional Office for Europe.

WHO Ad Hoc Committee on Health Research Relating to Future Intervention Options. (1996). *Investing in Health Research for Development*. Geneva: WHO.

WHO (1995). *New Public Health and the WHO's Ninth General Programme of Work*. Geneva: WHO, Division of Development of Human Resources for Health.

World Health Organization and UNICEF (1978). *Primary Health Care: Report of the International Conference on Primary Health Care. Alma-Ata USSR. 6–12 September, 1978.* Geneva: WHO.